



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,987	01/17/2002	Tetsuya Kanbe	NIT-319	5433

7590

07/14/2003

MATTINGLY, STANGER & MALUR, P.C.  
ATTORNEYS AT LAW  
1800 DIAGONAL ROAD, SUITE 370  
ALEXANDRIA, VA 22314

EXAMINER

RICKMAN, HOLLY C

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/046,987

Applicant(s)

KANBE ET AL.

Examiner

Holly Rickman

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11-14 is/are rejected.
- 7) ☒ Claim(s) 6-10, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carey et al. (US 6280813) in view of Jahnes et al. (US 5399386).

Carey et al. discloses a magnetic recording medium having a non-magnetic substrate, an amorphous NiP layer thereon, a bcc underlayer with Cr, a first magnetic layer formed from an alloy such as CoCrPtB, a non-magnetic coupling layer, and a second magnetic layer formed from a Co based alloy (see Fig. 3). The reference is silent with respect to the use of a first magnetic layer containing one of Ru or Re in an amount between 3 and 30 at%. (It is noted that Cr, B, and C are all optional additives according to claim 1 because they may be present in amounts of 0 at. %).

Jahnes et al. teach the equivalence of CoCrPtB and Co-Re for use in magnetic recording media (col. 2, lines 6-9).

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute a CoRe alloy for the CoCrPtB alloy layers taught by Carey et al. in view of the functional equivalence of the two materials.

Art Unit: 1773

3. Claims 4-5 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carey et al. (US 6280813) in view of Jahnes et al. (US 5399386) as applied to claims 1-3 and 11-12 above, and further in view of Yoshida et al. (US 6506508).

Carey et al. in view of Jahnes et al. teach all of the limitations of the claims except for the presence of a non-magnetic Co-containing hcp underlayer beneath the lowermost magnetic layer.

Yoshida et al. teaches that it is known in the art to add a non-magnetic hcp-type Co containing layer underneath a Co magnetic layer in order to improve the crystallinity of the Co magnetic layer (col. 2, lines 7-11).

It would have been obvious to one of ordinary skill in the art at the time of invention to add a Co-based hcp layer underneath the lower magnetic layer taught by Carey et al. in order to improve the crystallinity of the overlying Co-based magnetic layer.

*Allowable Subject Matter*

4. Claims 6-10 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 6-10 and 15-16 are allowable over the closest prior art to Carey et al. which fails to teach or suggest the use of a CoRu non-magnetic intermediate layer or the use of a CrB underlayer containing 2-15 at% B.

Art Unit: 1773

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (703) 305-2642. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Holly Rickman  
Primary Examiner  
Art Unit 1773

hcr  
July 10, 2003